

REMARKS/ARGUMENTS

Claims 1, 8, 16, 21, 25, and 30 are amended, claims 12 and 15 are canceled, and new claims 37-43 are added herein. With entry of this Amendment, claims 1, 4-9, 11, 16, 19-22, 24, 25, 28-31 and 37-43 will be pending.

Claims 1, 16, and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication Nos. 2002/0172149 (Kinoshita et al.) in view of U.S. Patent Application Publication No. 2002/0112072 (Jain) (Provisional Application No. 60/268,346, filed February 12, 2001).

Claims 1, 16, and 25 have been amended to include allocating a primary bandwidth pool for use by primary paths and specify that the backup bandwidth pool on each of the links comprises a bandwidth equal to at least a link speed minus a maximum reservable bandwidth for the primary paths on the links.

The Kinoshita et al. patent is directed to a method and apparatus for protection path setup. Kinoshita et al. do not use a primary bandwidth pool and a backup bandwidth pool. Instead Kinoshita et al. specify at each node, bandwidth in use and unused bandwidth (see e.g., Fig. 33). The unused bandwidth may be used by a working path or a protection path (paragraphs [0163] and [0168]). As noted by the Examiner, Kinoshita et al. also fail to teach wherein bandwidth to be protected of a link pair comprises a lesser of primary bandwidths of links of the link pair traversing a node to be protected.

Jain is directed to a system and method for fast-rerouting of data in a data communication network. Fast reroute uses backup tunnels preconfigured for links or nodes and provides guaranteed backup protection by configuring the backup tunnels with guaranteed bandwidth. As described at paragraph [0103], the backup path has a reserved bandwidth that may be equal, greater than, or less than the protected path. Jain does not show or suggest wherein bandwidth to be protected of a link pair comprises a lesser of primary bandwidths of links of the link pair traversing a node to be protected.

Accordingly, claims 1, 16, and 25, and the claims depending therefrom, are submitted as patentable over Kinoshita et al. and Jain.

Claims 8, 21, and 30 stand rejected under 35 U.S.C 103(a) as being unpatentable over Kinoshita et al., U.S. Patent No. 6,895,441 (Shabtay et al.), and U.S. Patent Application Publication No. 2002/0004843 (Andersson et al.).

Claims 8, 21, and 30 have been amended to clarify that the primary bandwidth pool is for use by primary paths and the backup bandwidth pool is for use by backup tunnels. As previously discussed Kinoshita et al. do not use a primary bandwidth pool and a backup bandwidth pool.

Furthermore, Kinoshita et al. do not show or suggest wherein there is at least one set of backup tunnels that protect disparate nodes and that consume more bandwidth on at least one link than provided by at least one link's backup bandwidth pool. If the bandwidth needs to be increased in Kinoshita et al., the resource control section secures the bandwidth before setting up the path. If additional bandwidth is not available, the protection path is not established. The protection path is only setup if bandwidth is available. Thus, there are no protection paths that consume more bandwidth than provided by a link's backup bandwidth pool.

The Shabtay et al. patent is directed to a path rerouting mechanism utilizing multiple link bandwidth allocations. In rejecting the claims, the Examiner refers to column 14 of Shabtay et al., which describes a routing search. An initiating node considers the available bandwidths reserved for protection tunnels, LSPs and unprotected LSPs. Only links with sufficient bandwidth available are used. Shabtay et al. do not show or suggest a set of backup tunnels that protect disparate nodes and consume more bandwidth on at least one link than provided by the one link's backup bandwidth pool.

Andersson et al. disclose a system for bypassing network changes in a routed communication network. Paragraphs 96 and 97 of Andersson et al. describe how a failure is signaled by a node that detects a failure. The node is simply signaling a failure indication and not signaling a backup tunnel with zero bandwidth.

Accordingly, claims 8, 21, and 30, and the claims depending therefrom, are submitted as patentable over the cited references.

The other references cited including U.S. Patent Application Publication No. 2002/0067693 (Kodialam et al.), do not overcome the deficiencies of the primary references.

For the foregoing reasons, Applicants believe that all of the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite prosecution of the application, please do not hesitate to call the undersigned at (408) 399-5608.

Respectfully submitted,



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